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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/599,969	06/21/2000	Roberto Aiello	FAN-00-012	7157
44279	7590	11/08/2004	EXAMINER	
PULSE-LINK, INC. 1969 KELLOGG AVENUE CARLSBAD, CA 92008			AHN, SAM K	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 11/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/599,969	Applicant(s) AIELLO ET AL.	
	Examiner Sam K. Ahn	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment, received on 09/20/04.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-21 is/are allowed.
- 6) ☒ Claim(s) 22 and 23 is/are rejected.
- 7) ☒ Claim(s) 17, 18 and 24-27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.
2. The indicated allowability of claims 17-27 is withdrawn in view of the newly discovered reference(s) to Dress, Jr. et al. USP 6,603,818 B1 (Dress) in view of Larrick, Jr. et al., USP 6,026,125 (Larrick). Rejections based on the newly cited reference(s) follow.
3. Please note that among the cancelled claims, claim 16 was not included in the amendment received on 09/20/04.

Claim Objections

4. Claims 17,18 and 24-27 are objected to because of the following informalities:

In claim 17, lines 10-11, delete "the appropriate gain to" and insert "an appropriate gain from".

In claim 24, line 2, delete "further".

In claim 27, line 2, delete "amplitude module, said pulse amplitude" and insert "amplitude modulation module, said pulse amplitude modulation".

Claims 18,25 and 26 directly or indirectly depend on claim 17 or 24.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

Art Unit: 2637

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dress, Jr. et al. USP 6,603,818 B1 (Dress) in view of Larrick, Jr. et al., USP 6,026,125 (Larrick).

Regarding claim 22, Dress teaches a transmitter system comprising, a data modulation unit (see Fig.10) configured to generate a digital stream of pulse data (output of 1009) which is synchronized with a master clock (1001), the data modulation unit comprising a pulse amplitude modulation module (1003 and 1004, 2nd), which is configured to vary the amplitude of the digital stream of pulse data and a transmit module (1005) operatively coupled to a pulse repetition frequency module (1003 and 1004, 3rd for on-off keying) and to the pulse amplitude modulation module, said transmit module configured to distinguish between different modulation techniques (note col.9, lines 16-46 wherein 1004 blocks are capable of implementing different modulation techniques). Dress further teaches a transmitter unit (1010,1011) coupled to said data modulation unit, said transmitter unit configured to receive said digital stream of pulse data and generate a radio frequency pulse stream, (output of 1010). Dress also teaches an antenna (1012) coupled to said transmitter unit, said antenna configured to transmit said RF pulse stream, (note col.8, line 41 – col.9, line 56).

However, Dress does not explicitly illustrate wherein the transmit module is coupled between pulse amplitude modulation module and a pulse repetition frequency module. Rather, Dress illustrates wherein the transmit module is coupled to both pulse amplitude modulation module and a pulse repetition frequency module. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to locate the transmit module in between or locate in the middle of the two modulating modules coupled to the transmit module. Applicant has not disclosed that locating the transmit module in between the two modules provides an advantage, is used for a particular purpose or solves a stated problem. The applicants illustrate in Fig.4 wherein the transmit module is coupled to both PAM and PRF. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the configuration taught by Dress because Dress' system also has the transmit module communicating both with the pulse amplitude modulation module as well as with the pulse repetition frequency module. Therefore, it would have been obvious to one of ordinary skill in this art to modify Dress's illustration of Fig.10 by separating the generators and modulators (1003 and 1004), thus resulting in having the transmit module configured in between the two modules for the purpose of effective illustration of the system layout.

And although Dress teaches data communication transmission using broadband (note col.1, lines 50-58), and further teaches a UWB receiver (note col.11, lines 40-41) Dress does not explicitly teach wherein said RF pulse stream is an ultra

wide band pulse stream. Larrick teaches a UWB transmitter comprising the data modulation (see Fig.1) to transmit an ultra wide band pulse stream (via antenna in Fig.8) wherein the UWB transmitter is capable of implementing different modulation techniques, (note col.4, lines 18-22). Therefore, it would have been obvious to one skilled in the art at the time of the invention to analyze that the signal being transmitted by Dress is also an ultra wide band pulse stream, as Larrick also teaches the data modulation transmitting the ultra wide band pulse stream, for the purpose of implementing the UWB systems in radar and communications applications.

Regarding claim 23, Dress in view of Larrick teach all subject matter claimed, as applied to claim 22. Dress further teaches wherein the transmit module (1005,1006,1008) is configured to communicate said digital stream of pulse data (output of 1009) to said transmitter unit (1010,1011).

Allowable Subject Matter

6. Claims 17-21 are allowed.
7. Claims 24-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and overcome the claim objections.
8. The following is a statement of reasons for the indication of allowable subject matter:
Prior art discloses a transmitter transmitting an ultra wide band pulse stream produced by the transmitter comprising a data modulation unit, a transmitter unit and


an antenna where the data modulation unit further comprises a pulse repetition frequency module and a pulse amplitude modulation module where the two modules are coupled to a transmit module, which is configured to distinguish between different modulation techniques. Closest prior arts, Dress and Larrick, teach in the same field of endeavor, a transmitter comprising all the elements as claimed. However, Dress nor Larrick, viewed solely or in combination do not explicitly teach the combination of a pulse generator system coupled to said transmit module and a clock interface and configured to shape a plurality of incoming pulses, and variable gain amplifier or an attenuator coupled to a data interface. Dress nor Larrick, viewed solely or in combination, further do not explicitly teach wherein the pulse generator system as configured and illustrated in Fig.4 generates plurality of combination of pull up, pull down, turn on and turn off signals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sam K. Ahn
10/29/04


YOUNG T. TSE
PRIMARY EXAMINER